

1	2	3	4
1990-91	12224	126375	9.67
1991-92	12653	150094	8.43
1992-93	14979	167975	8.92
1993-94	15249	181133	8.42
1994-95	18383	248740	7.39
1995-96	21367	338268	6.32
1996-97	24415	312990	7.80
1997-98	26008	333976	7.79
1998-99	26714	335295	7.97
1999-2000	32308	380891	8.48
2000-01	32798	385000	8.52
2001-02	35486	396087	8.96
2002-03	37972	387067	9.81
2003-04	43907	482744	d.10

Source: Central Statistical Organisation

(c) Yes, Sir. Some of the strategies envisaged in the Approach Paper to the Eleventh Five Year Plan to step up investment in the agriculture and allied sectors are as follows:

- \* Increase in the rate of public investment in sectors like irrigation, watershed development in rainfed areas, rural road connectivity, rural electrification.
- \* Revitalization of Agricultural extension system through Krishi Vikas Kendras in each district.
- \* Agricultural diversification through horticulture and floriculture.
- \* Development/strengthening of modern agricultural markets.
- \* Reorientation of banks towards extending credit, especially production credit, to rural and farmers' households at concessional rate of interests.
- \* Revitalization of Agricultural research to ensure full exploitation of scientific advances for improving productivity according to agro-climatic conditions.
- \* Contract farming to attract corporate investors.

#### **Funds for ICAR**

281. SHRI S.S. AHLUWALIA: Will the Minister of AGRICULTURE be pleased to state:

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(a) the details of fund allocation in the Indian Council of Agricultural Research (ISAR) research projects dedicated to developing higher yields in wheat, paddy, pulses, oil and cotton seeds in the country since 1995-96 year-wise; ,

(b) whether any review has been conducted to ascertain the benefits yielded to the farming community by these ICAR research projects; and

(c) if so, the salient findings thereof indicating the details of important breakthroughs achieved in the projects duly indicating identity of the respective projects, details of the nature of improvement recorded, funds allocated/utilized and date of release of the varieties to farmers in respective zones for cultivation?

THE MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE (SHRI KANTILAL BHURIA): (a) The details of funds allocated for the Institute(s)/Directorate(s)/National Research Centre(s) (NRCs)/All India Coordinated Research Projects(s) (AICRPs) dedicated for research on wheat, paddy, pulses, oilseeds and cotton are placed at Statement-I (see below).

(b) and (c) The review of the research work of these Institute(s)/Directorate(s)/National Research Centre(s) and All India Coordinated Research Project(s) have been conducted by concerned Quinquennial Review Teams (QRTs). The research work is also being regularly reviewed by Research Advisory Committee and also during the annual meeting/workshop(s) of respective All India Coordinated Research Projects).

During the period 1995-96 to 2005-06 considerable progress has been made in terms of development of large number of varieties/hybrids in case of Wheat, Rice, Pulses, Oilseeds and Cotton. The production and protection technologies were also developed. Frontline demonstrations were also conducted for transfer of technology. The breeder seeds in above crops-were also made available to the various agencies as per indent of Deptt, of Agriculture & Cooperation for providing quality seed. (Some of highlights of achievements are given in Statement-II (See below).

The funds allocated and expenditure incurred are mentioned in Statement-I & III.

**Statement-I**  
*Details of Funds Utilised Since 1995-96 Under Plan*

(Rs. In lakhs)													
Sl. No	Projects	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	TOTAL
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1.	WHEAT												
	DWR, Kamal	238.5	82.5	173	140	175	120	131	80	90	180	96.5	1506.5
	AICRP on Wheat & Barley	175	167.5	200	291.75	330	371	404	900	732	500	524	4595.25
	TOTAL	413.5	250	373	431.75	505	491	535	980	822	680	620.5	6101.76
2	PADDY												
	CRRI, Cuttack	160	135	183	260	300	235	460	225	153	355.9	353.1	2820
	DRR, Hyderabad	168.42	163.45	251.15	302.28	270.15	241.04	183.04	119.5	129.7	338.88	279.33	2446.94
	AICRP Rice, Hyderabad	278.62	251.55	260.85	330.72	369.85	400.71	400	700	675	568.6	590.53	4826.43
	TOTAL	607.04	550	695	893	940	876.75	1043.04	1044.5	957.7	1263.3	1222.9	10093.3
3	PULSES												
	IIPR, Kanpur	160	125	164	222	277	201	281	199.67	199.98	365	207.39	2402.4
	AICRP on Chickpea	100	90	123.86	245	180	254.6	246	477	475	313.2	305.6	2810.26
	AICRP on MULLARP	130	130	145	260.12	220	350	369	600	600	478	401	3683.12
	AICRP on Pigeon Pea	90	85	95	195	185	257	249	400	400	430	358.32	2744.42
	AICRP on Arid Legumes	38.71	38.5	25	50	50	75	56	111.13	69.16	111.14	114.53	739.17
	TOTAL	518.71	468.5	552.86	972.12	912	1137.6	1201	1787.8	1744.1	1697.3	1386.8	12378.9
4.	OILSEEDS												
	DOR, Hyderabad	142.91	138.42	100.49	104.88	119.63	168.22	160.96	136	146	125	313	1655.53

	NRC Groundnut, Junagarh	91.8	104.8	92.5	130	125.65	106.13	109	87	90	107	205.5	1249.38
	AICRP on Groundnut, Junagarh	82	60	150	130	135	241.54	233.47	250	350.23	229.27	259.28	2120.79
	NRC Soyabean, Indore	93.9	100	46	60.21	125.65	110	81	173	88.7	63.5	194.25	1136.21
	AICRP on Soyabean, Indore	65	48	55	103.95	159.35	131	150	139.72	202	141	198.2	1393.22
	NRC- R&M, Bharatpur	142.92	108	92	230	300	100	384	69.9	45	54.24	424	1950.06
	AICRP on R & M Bharatpur	75.65	62.21	57.4	272	300	199.96	170.64	360	410	345	353.86	2606.72
	AICRP on Oilseeds, Hyderabad	141.16	161.58	469.56	503.11	460.37	457.76	195	400	400	405	359.51	3953.05
	AICRP on Linseed, Kanpur	0	0	81.46	94.28	137.27	115.68	123.72	160.5	200.8	172.28	240.78	1326.77
	NICRP Sesame & Niger, Jabalpur	0	0	92.19	107.6	161.4	149.75	153.82	149.66	161.36	214.97	333.83	1524.58
	TOTAL	835.34	783.01	1236.6	1736.03	2024.32		1780.04	1761.63	2094.09	1857.26	2882.21	18916.31
5	COTTON												
	CICR, Nagpur	125	100	150	135	120	130	200	120	200	153	133	1566
	AICRP on Cotton	152.3	136.69	202	290	240	325	350.75	410	472	400	391.18	3369.92
	Tech. Mission on Cotton	0	0	0	0	0	1000	486	380	420	400	400	3086
	TOTAL	277.3	236.69	352	425	360	1455	1036.75	910	1092	953	924.18	8021.92
	GRAND TOTAL	2651.89	2288.2	3209.46	4457.9	4771.32	5740.39	5577.42	6648.08	6709.93	6450.98	7036.69	55512.6

Besides above, Indian Agricultural Research Institute, New Delhi and Vivekanand Parvatra Krishi Anusandhan Sansthan, Almora also portion of their Budget for research on some of the crops mentioned above which cannot be segregated.

**Statement II***Highlights of achievements made in development of large number of varieties/Hybrid Crops*

- Wheat** A total of 112 varieties of wheat were released for cultivation for different agro ecological zones of the country. One of the variety PBW 343 alone has occupied more than five million hectares in the north western and eastern zone of the country and played significant role for enhancing the wheat production in the country. The yield and protection technologies were also developed. Resource conservation technologies viz. zero tillage and furrow irrigated raised bed technology have also been refined and popularized.
- Frontline demonstration were also conducted for transfer of technology, the quality breeder seed were also made available to the various agencies as per indent of Deptt, of Agriculture & Cooperation for providing quality seed.
- Rice** 256 rice varieties/hybrids were developed for different agro-ecologies.
- Some of the popular hybrids are KRH-2, Sahyadri, Pant Shankar Dhan 1,3, NSD-2. Pusa RH-2, first Basmati quality hybrid has also been developed. Due to these efforts including training, transfer of technology, the hybrid rice area has incurred about 1 million hectare in country.
- Frontline demonstration were also conducted for transfer of technology, the quality breeder seed were also made available to the various agencies as per indent of Deptt, of Agriculture & Cooperation for providing quality seed.
- Pulses** Many high yielding varieties of pulse crops have been released along with matching production and protection technology: In Chickpea (25); Pigeon pea (8); lentil (7) in field pea (13); Moong bean (14); Urdbean (11); Cowpea (6); Moothbean (8); Horsegram (4); Guar (4) Lathyrus (1) and Rajmash (2) were released.
- Development of short duration varieties of mungbean (like Samarat etc.) and urdbean has paved the way for catch cropping between rabi and kharif pulses in irrigated areas.
- Development of short duration varieties of pigeonpea such as UPAS 120, Manak, AL15, AL 201, Pusa 84, Pusa Ageti, ICPL151, TT 6, Pusa 74, ICPL 88039 and Pusa 992 which take around 130—160 days to mature has

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enabled their introduction in the irrigated areas of Punjab, Haryana, Delhi, North West Rajasthan and western Uttar Pradesh bringing additional area under pigeonpea-wheat system.

Frontline demonstration were also conducted for transfer of technology, the quality breeder seed were also made available to the various agencies as per indent of Deptt, of Agriculture & Cooperation for providing qyality seed.

**Oilseeds** Many high yielding varieties of Oilseeds crops have been released along with matching production and protection technology: Groundnut (13); Rapeseed mustard (33); Soyabean (12); Sunflower (7); Safflower (3); Castor (4); Seasmum (14); Niger (9) and Linseed (8) varieties were released during this period.

A number of remunerative intercropping and cropping sequence systems have been identified and recommended for different regions of the country.

The IPM technologies to manage Alternaria and wilt diseases and aphids in Safflower; *Alternaria* leaf blight, downy mildew diseases and capitulum borer, foliage feeders and sucking pests in sunflower and wilt and *Botrytis* diseases and semilooper, spodoptera and capsule borer in castor have been recommended.

Frontline demonstration were also conducted for transfer to technology, the quality breeder seed were also made available to the various agencies as per indent of Deptt, of Agriculture & Cooperation for providing quality seed.

**Cotton** In Cotton, 88 hybrids/varieties for different zones of the country have been developed.

To dated spurious seed, three Bt detection kits (Cry 1 Ac Bt-Quant, Cry 1 Ac Bt-detect, Cry 1 Ac Bt express) have been developed.

An ELISA to detect endosulfan residues in food and agricultural produce has been developed.

Frontline demonstration were also conducted for transfer of technology, the quality breeder seed were also made available tot he various agencies as per indent of Deptt, of Agriculture & Cooperation for providing quality seed.

**Statement III**  
**Details of Funds Utilised Since 1995-96**

(Rs. in lakhs)

SI. No	Projects	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	TOTAL
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1.	WHEAT												
	DWR, Kamal	238.05	82.34	172.91	139.7	174.91	119.97	131	79.82	89.68	179.98	9649	1505.3
	AICRPP on Wheat & Barley	74.98	167.5	199.42	291.59	328.38	371	404	899.61	732	500	524	4592.48
	TOTAL	413.48	249.84	372.33	431.29	503.29	490.97	535	979.43	821.68	679.98	620.49	6097.78
2.	PADDY												
	CRRI, Cuttack	159.98	134.63	170.58	256.31	299.85	2344	459.93	169.32	140.18	338.52	352.79	2736.49
	DRR, Hyderabad	16842	163.45	251.15	302.28	270.15	241.04	183.04	119.5	129.7	338.88	279.33	2446.94
	AICRP Rice, Hyderabad	27862	251.55	260.85	330.72	369.85	400.71	400	700	675	568.6	590.53	4826.43
	TOTAL	607.02	549.63	682.58	389.31	939.85	876.15	1042.97	1008.82	944.88	1246	1222.65	10009.86
3.	PULSES												
	IIPR, Kanpur	159.4	125.04	164.37	220.16	275.42	201.02	280.86	199.67	199.98	365.99	207.39	2399.3
	AICRP on Chickpea	95.98	89.77	121.95	246.62	177.47	254.42	246.01	476.44	474.36	310.2	301.86	2795.08
	AICRP on MULLARP	110.28	136.13	146.33	248.01	217.8	350	368.62	599.52	598.58	477.68	397.81	3650.96
	AICRP on Pigeon Pea	784	796	95.69	182.43	178.04	257	249.07	399.29	399.51	430	356.31	2706.34
	AICRP on Arid Legumes	38.71	38.5	22.11	46.49	46.76	86.1	56	112.51	135.46	128.46	146.29	867.39
	TOTAL	482.77	469.04	550.45	943.71	895.49	1148.54	1200.56	1787.43	1807.89	1712.53	1409.66	12408.07
4.	OILSEEDS												
	DOR, Hyderabad	142.91	138.42	100.49	104.89	119.63	168.22	160.98	136	115.79	125	313	1626.33
	NRC Groundnut, Junagarh	79.99	91.87	92.37	130.69	134.72	106.13	106.74	86.52	84.12	106.77	2055	1225.42

AICRP on Groundnut, Junagarh	71.83	6S11	133.17	184 93	134.99	205.69	165.07	248 09	, 350 23	225 1	211.1	1975.41
NRC Soyabean. Indore	91.79	99 94	49 54	6021	124.04	95 54	80.96	162 79	79 27	6331	194.14	1101.63
AICRP on Soyabean. Indore	82 44	22 09	55	103 95	159 35	131	ISO	139 72	201 46	140.56	1982	1363.77
NRC- RAM, Bharatpur	60.83	645	92	22981	299.79	99.79	113.69	69.9	45	54 24	1181	1326.66
AICRP on R A M Bharatpur	55 65	64 5	57.4	272	250	201	141.8	360	410	345	353.86	2511.21
AICRP on Oilseeds. Hyderabad	141.16	161 58	469.56	50311	460 37	457.76	195	400	400	405	35951	3963.06
AICRP on Unseed. Kanpur	0	0	80.44	93 28	136 27	114.68	127.93	125 33	135 92	171 29	204 56	1189.7
NICRP Sesame & Niger. Jabalpur	0	0	101.19	115.6	169.66	158.75	119.63	134.73	241.25	244.71	247 38	1632.9
TOTAL COTTON	726.7	706.01	1231.16	1776.47	1MS.82	1738.56	1361.0	1663.06	2063.04	1880.98	2466.36	17826.97
OCR, Nagpur	124.54	99.95	127.99	11946	11986	129.93	198.55	120	101 99	153	132.89	1428.16
AICRP on Cotton	152	136 69	202	290	239.38	325	350.75	410	472	400	391.15	3368.97
Tech. Mission on Cotton	0	0	0	0	0	1000	486	379.99	413.25	396.98	400	3076.22
TOTAL	276.64	236.64	329.69	409.46	359.24	1454.93	1035.03	909.99	987.24	949.98	924.04	7873.36
GRAND TOTAL	2606.61	2211.16	3166.61	4462.24	4666.69	5709.15	6176.63	6548.76	6624.73	6469.47	6663.19	64216.03

Besides above, Indian Agricultural Research Institute, New Delhi and Vivekanand Parvatiya Krishi Anusandhan Sansthan, Almora also incur a portion of their Budget for research on some of the crops mentioned above which cannot be segregated.